Personal Systems Reference Lenovo® Essential Notebooks

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Lenovo B570e2

Lenovo B575e

Lenovo B570e2

Lenovo B570e2

Lenovo B570e2

Lenovo B575e

Type-model	Pro-cessor	GHz	Max turbo (GHz)	Memory	Widescreen display	Cam-era	Integrated graphics	SATA disk	SATA optical	PCIe Mini Card 802.11	Top color	HDMI con-nector	Win7 preload	Avail date
5215-22G	i3-2370M	2.40	None	4GB	15.6" HD	0.3M	Intel HD 3000	500GB 5400[8]	DVD±RW	11b/g/n[28]	Black	HDMI	Prem 64	Aug 12
5215-26G	B820	1.70	None	2GB	15.6" HD	0.3M	Intel HD	320GB 5400	DVD±RW	11b/g/n	Black	HDMI	Prem 64	Aug 12
5215-27G	B970	2.30	None	4GB	15.6" HD	0.3M	Intel HD	320GB 5400	DVD±RW	11b/g/n	Black	HDMI	Prem 64	Aug 12
5215-28G	i3-2330M	2.20	None	4GB	15.6" HD	0.3M	Intel HD 3000	500GB 5400	DVD±RW	11b/g/n	Black	HDMI	Prem 64	Aug 12
5215-29G	i5-2450M	2.50	3.10	4GB	15.6" HD	0.3M	Intel HD 3000	500GB 5400	DVD±RW	11b/g/n	Black	HDMI	Prem 64	Aug 12
5215-2AG	i3-2328M	2.20	None	4GB	15.6" HD	0.3M	Intel HD 3000	500GB 5400	DVD±RW	11b/g/n	Black	HDMI	Prem 64	Aug 12
5215-2BG	i3-2328M	2.20	None	4GB	15.6" HD	0.3M	Intel HD 3000	500GB 5400	DVD±RW	11b/g/n	Black	HDMI	Pro 64	Aug 12
5215-2CG	i3-2328M	2.20	None	4GB	15.6" HD	0.3M	Intel HD 3000	320GB 5400	DVD±RW	11b/g/n	Black	HDMI	Prem 64	Aug 12
5215-2DG	i3-2328M	2.20	None	4GB	15.6" HD	0.3M	Intel HD 3000	320GB 5400	DVD±RW	11b/g/n	Black	HDMI	Pro 64	Aug 12
5215-2EG	i3-2328M	2.20	None	4GB	15.6" HD	0.3M	Intel HD 3000	320GB 5400	DVD±RW	11b/g/n	Black	HDMI	DOS-Lic.	Aug 12

- ***15.6" widescreen, glossy display***
- ***Integrated 0.3 megapixel camera***
- ***Microsoft® Office 2010 Product Key Ready (O10PKR)***

Positioning	*Widescreen flexibility; two-spindle*
Processor	**Intel® Celeron® B820 processor (dual-core, 1.70GHz, 2MB cache)**, DDR3 memory controller (up to 1333MHz) **Intel Pentium® B970 processor (dual-core, 2.30GHz, 2MB cache)**, DDR3 memory controller (up to 1333MHz) **Intel Core™ i3-2328M processor (dual-core, 2.20GHz, 3MB cache)**, DDR3 memory controller (up to 1333MHz), HT technology **Intel Core i3-2330M processor (dual-core, 2.20GHz, 3MB cache)**, DDR3 memory controller (up to 1333MHz), HT technology **Intel Core i3-2370M processor (dual-core, 2.40GHz, 3MB cache)**, DDR3 memory controller (up to 1333MHz), HT technology **Intel Core i5-2450M processor (dual-core, 2.50GHz, 3MB cache)**, DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology
Memory	4GB max[7] / **PC3-10600 1333MHz DDR3**, non-parity, one 204-pin SO-DIMM socket;
Diskette drive	None
SATA DVD±RW	DVD burner, dual-layer support, fixed, not removable, 12.7mm high, tray-in
SATA disk	Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable,
Widescreen display	**15.6"** (396mm) **HD (1366x768) TFT color**, **VibrantView** (glossy), **LED backlight,** 220 nits, 16:9 aspect ratio
Camera	Camera on top of screen, 0.3-megapixel, fixed focus
Integrated graphics	**Intel HD Graphics** or **Intel HD Graphics 3000** in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via HDMI connector
Keyboard	Full-size keyboard, multimedia Fn keys, recovery key
Numeric keypad	Numeric keypad on right of keyboard
Touch controls	None
Touch pad	Touch pad with two button, supports scroll feature, multi-touch
Dimensions[3]	*(WxDxH):* 14.88" x 9.92" x 1.32"; 378mm x 252mm x 33.5mm
Weight[2]	with optical drive and battery: *6-cell:* from 5.51 lb (2.5kg)
Case color	Black top, black bottom
Case material	Polycarbonate/Acrylonitrile-Butadiene-Styrene (PC/ABS) plastic
Battery - type	Lithium Ion **6-cell**
Battery - life[10]	*6-cell:* up to 6 hr
Chipset	**Mobile Intel HM65 Express Chipset**
ExpressCard/34	None
Multicard reader	6-in-1 reader (MMC, Memory Stick®, Memory Stick PRO™, Secure Digital Card, xD-Picture Card™, SDHC)
Ports	Three USB 2.0, ethernet (RJ-45), external monitor (VGA DB-15, HDMI)
TV tuner	None
PCIe Mini Card 11b/g/n[28]	Two PCI Express Mini Card slots 11b/g/n wireless[4], PCIe Mini Card adapter, 1x1
Bluetooth™	None
Modem	None
Ethernet	Gigabit ethernet, Realtek® RTL8111E
Audio support	High Definition (HD) Audio, Realtek® 272 codec / stereo speakers (1.5 watt x 2) / microphone, microphone input jack (3.5 mm), headphone jack (3.5 mm)
Security	Power-on password, hard disk password, supervisor password, security lockhole
Fingerprint reader	None
Limited warranty[12]	**1-year** - depot repair service

Preloaded operating system[20]
- *Some:* DOS-Lic.
- *Some:* Genuine Windows® 7 Home Premium 64
- *Some:* Genuine Windows 7 Professional 64

Preloaded applications[14]
(Windows 7 models; only some listed)
- Lenovo OneKey Recovery
- Lenovo ReadyComm
- McAfee® VirusScan® Plus (60 days of virus definitions)
- Adobe® Reader®
- CyberLink YouCam
- Cyberlink Power2Go (DVD±RW)
- Microsoft Office 2010 preloaded; purchase product key to activate

65-watt AC adapter
ENERGY STAR® 5.0-compliant (Windows 7 models)
RoHS-compliant

See footnotes for important warranty information
WE model(s) announced August 29, 2012

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Type-model	Pro-cessor	GHz	Max turbo (GHz)	Memory	Widescreen display	Cam-era	Integrated graphics	SATA disk	SATA optical	PCIe Mini Card WLAN / BT	Top color	HDMI con-nector	Preload	Avail date
3685-22G	E-300	1.30	None	2GB	15.6" HD	0.3M	HD 6310	320GB 5400[8]	DVD±RW	11b/g/n + BT	Black	HDMI	Prem 64	Aug 12
3685-23G	E2-1800	1.70	None	4GB	15.6" HD	0.3M	HD 7340	500GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Prem 64	Aug 12
3685-28G	E2-1800	1.70	None	4GB	15.6" HD	0.3M	HD 7340	320GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	DOS-Lic.	Nov 12

- ***15.6" widescreen, anti-glare***
- ***Integrated 0.3 megapixel camera***
- ***Microsoft® Office 2010 Product Key Ready (O10PKR)***

Positioning	*Widescreen flexibility; two-spindle*
Processor	**AMD Accelerated Processor E-300** (dual-core, 1.30GHz, 1MB L2 cache), integrated AMD Radeon™ HD 6310 Graphics, integrated DDR3 memory controller (up to 1066MHz) **AMD Accelerated Processor E2-1800** (dual-core, 1.70GHz, 1MB L2 cache), integrated AMD Radeon HD 7340 Graphics, integrated DDR3 memory controller (up to 1333MHz)
Memory	4GB max[7] / **PC3-10600 1333MHz DDR3**, non-parity, one 204-pin SO-DIMM socket; * System automatically clocks down for processors with 1066MHz memory controller
Diskette drive	None
SATA DVD±RW	DVD burner, dual-layer support, fixed, not removable, 12.7mm high, tray-in
SATA disk	Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable,
Widescreen display	**15.6"** (396mm) **HD (1366x768) TFT color**, anti-glare, **LED backlight,** 220 nits, 16:9 aspect ratio
Camera	Camera on top of screen, 0.3-megapixel, fixed focus
Integrated graphics	**AMD Radeon HD 6310 Graphics** or **AMD Radeon HD 7340 Graphics** in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via HDMI connector
Keyboard	Full-size keyboard, multimedia Fn keys, recovery key
Numeric keypad	Numeric keypad on right of keyboard
Touch controls	None
Touch pad	Touch pad with two buttons, supports scroll feature, multi-touch
Dimensions[3]	*(WxDxH):* 14.88" x 9.92" x 1.32"; 378mm x 252mm x 33.5mm
Weight[2]	with optical drive and battery: *6-cell:* from 5.34 lb (2.42kg)
Case color	Black top, black bottom
Case material	Polycarbonate/Acrylonitrile-Butadiene-Styrene (PC/ABS) plastic
Battery - type	Lithium Ion **6-cell**
Battery - life[10]	*6-cell:* up to 6.5 hr
Chipset	**AMD A68M FCH**
ExpressCard/34	None
Multicard reader	4-in-1 reader (MMC, Secure Digital Card, SDXC, SDHC)
Ports	One USB 3.0, two USB 2.0, ethernet (RJ-45), external monitor (VGA DB-15, HDMI)
TV tuner	None
PCIe Mini Card	One PCI Express Mini Card slot
11b/g/n[28]	11b/g/n, PCIe Half Mini Card, Wi-Fi + Bluetooth combo adapter, 1x1
Bluetooth™	Bluetooth 4.0 wireless, integrated in WLAN PCIe Half Mini Card
Modem	None
Ethernet	Gigabit ethernet, Realtek® RTL8111F
Audio support	High Definition (HD) Audio, Realtek® 272 codec / stereo speakers (1.5 watt x 2) / microphone, microphone input jack (3.5 mm), headphone jack (3.5 mm)
Security	Power-on password, hard disk password, supervisor password, security lockhole
Fingerprint reader	None
Limited warranty[12]	**1-year** - depot repair service

Preloaded operating system[20]
- *Some:* DOS-Lic.
- *Some:* Genuine Windows® 7 Home Premium 64

Ready to install applications[14]
(Windows 7 models; only some listed)
- One Key Recovery Pro

Preloaded applications[14]
(Windows 7 models; only some listed)
- ThinkVantage System Update
- ThinkVantage Tools
- Lenovo SimpleTap
- Norton™ Internet Security 2012 (30 days of virus definitions)
- Adobe® Reader®
- Skype™ for Windows
- CyberLink YouCam
- Microsoft Office 2010 preloaded; purchase product key to activate

65-watt AC adapter
ENERGY STAR® 5.0-compliant (Windows 7 models)
RoHS-compliant

See footnotes for important warranty information
WE model(s) announced September 19 or November 8, 2012

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Type-model	Pro-cessor	GHz	Max turbo (GHz)	Memory	Widescreen display	Cam-era	Integrated graphics	SATA disk	SATA optical	PCIe Mini Card WLAN / BT	Top color	HDMI con-nector	Preload	Avail date
3685-24G	E1-1200	1.40	None	2GB	15.6" HD	720p	HD 7310	320GB 5400[8]	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 64	Nov 12
3685-25G	E2-1800	1.70	None	4GB	15.6" HD	720p	HD 7340	320GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 Pro64	Nov 12
3685-26G	E2-1800	1.70	None	4GB	15.6" HD	720p	HD 7340	500GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 64	Nov 12
3685-27G	E2-1800	1.70	None	4GB	15.6" HD	720p	HD 7340	500GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 Pro64	Nov 12
3685-29G	E2-1800	1.70	None	4GB	15.6" HD	720p	HD 7340	320GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win7 Pro64	Nov 12
3685-2AG	E2-1800	1.70	None	4GB	15.6" HD	720p	HD 7340	500GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win7 Pro64	Nov 12

- ***15.6" widescreen, anti-glare***
- ***Integrated 720p HD camera***
- ***Microsoft® Office 2010 Product Key Ready (O10PKR)***

Positioning	*Widescreen flexibility; two-spindle*
Processor	**AMD Accelerated Processor E1-1200** (dual-core, 1.40GHz, 1MB L2 cache), integrated AMD Radeon™ HD 7310 Graphics, integrated DDR3 memory controller (up to 1066MHz) **AMD Accelerated Processor E2-1800** (dual-core, 1.70GHz, 1MB L2 cache), integrated AMD Radeon HD 7340 Graphics, integrated DDR3 memory controller (up to 1333MHz)
Memory	4GB max[7] / **PC3-10600 1333MHz DDR3**, non-parity, one 204-pin SO-DIMM socket; * System automatically clocks down for processors with 1066MHz memory controller
Diskette drive	None
SATA DVD±RW	DVD burner, dual-layer support, fixed, not removable, 12.7mm high, tray-in
SATA disk	Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable,
Widescreen display	**15.6"** (396mm) **HD (1366x768) TFT color**, anti-glare, **LED backlight,** 220 nits, 16:9 aspect ratio
Camera	HD720p Camera on top of screen, 1.0-megapixel, fixed focus
Integrated graphics	**AMD Radeon HD 7310 Graphics** or **AMD Radeon HD 7340 Graphics** in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via HDMI connector
Keyboard	Full-size keyboard, multimedia Fn keys, recovery key
Numeric keypad	Numeric keypad on right of keyboard
Touch controls	None
Touch pad	Touch pad with two buttons, supports scroll feature, multi-touch
Dimensions[3]	*(WxDxH):* 14.88" x 9.92" x 1.32"; 378mm x 252mm x 33.5mm
Weight[2]	with optical drive and battery: *6-cell:* from 5.34 lb (2.42kg)
Case color	Black top, black bottom
Case material	Polycarbonate/Acrylonitrile-Butadiene-Styrene (PC/ABS) plastic
Battery - type	Lithium Ion **6-cell**
Battery - life[10]	*6-cell:* up to 6.5 hr
Chipset	**AMD A68M FCH**
ExpressCard/34	None
Multicard reader	4-in-1 reader (MMC, Secure Digital Card, SDXC, SDHC)
Ports	One USB 3.0, two USB 2.0, ethernet (RJ-45), external monitor (VGA DB-15, HDMI)
TV tuner	None
PCIe Mini Card	One PCI Express Mini Card slot
11b/g/n[28]	11b/g/n, PCIe Half Mini Card, Wi-Fi + Bluetooth combo adapter, 1x1
Bluetooth™	Bluetooth 4.0 wireless, integrated in WLAN PCIe Half Mini Card
Modem	None
Ethernet	Gigabit ethernet, Realtek® RTL8111F
Audio support	High Definition (HD) Audio, Realtek® 272 codec / stereo speakers (1.5 watt x 2) / microphone, microphone input jack (3.5 mm), headphone jack (3.5 mm)
Security	Power-on password, hard disk password, supervisor password, security lockhole
Fingerprint reader	None
Limited warranty[12]	**1-year** - depot repair service

Preloaded operating system[20]
- *Some:* Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit
- *Some:* Windows 8 64-bit
- *Some:* Windows 8 Pro 64-bit

65-watt AC adapter
ENERGY STAR® 5.0-compliant
RoHS-compliant

See footnotes for important warranty information
WE model(s) announced November 8, 2012

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Type-model	Pro-cessor	GHz	Max turbo (GHz)	Memory	Widescreen display	Cam-era	Integrated graphics	SATA disk	SATA optical	PCIe Mini Card WLAN / BT	Top color	HDMI con-nector	Preload	Avail date
4377-A2G	B980	2.40	No	4GBx1	15.6" HD	720p	Intel HD	500GB 5400[8]	DVD±RW	11b/g/n + BT[28]	Black	HDMI	Win8 64	Nov 12
4377-A3G	i3-2328M	2.20	No	4GBx1	15.6" HD	720p	Intel HD 3000	500GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 Pro64	Nov 12
4377-A4G	i3-3110M	2.40	No	4GBx1	15.6" HD	720p	Intel HD 4000	750GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 64	Nov 12
4377-A5G	i5-3210M	2.50	3.10	4GBx1	15.6" HD	720p	Intel HD 4000	1TB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 64	Nov 12
4377-A7G	B830	1.80	No	2GBx1	15.6" HD	720p	Intel HD	320GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 64	Nov 12
4377-A8G	B980	2.40	No	4GBx1	15.6" HD	720p	Intel HD	320GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 64	Nov 12
4377-A9G	i3-2328M	2.20	No	4GBx1	15.6" HD	720p	Intel HD 3000	500GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 64	Nov 12

- ***15.6" widescreen, anti-glare display***
- ***Integrated 720p HD camera***
- ***Microsoft® Office 2010 Product Key Ready (O10PKR)***

Positioning	*Widescreen flexibility; two-spindle*
Processor	**Intel® Celeron® B830 processor (2 cores, 1.80GHz, 2MB cache)**, Intel HD Graphics, DDR3 memory controller (up to 1333MHz) **Intel Pentium® B980 processor (2 cores, 2.40GHz, 2MB cache)**, Intel HD Graphics, DDR3 memory controller (up to 1333MHz) **Intel Core™ i3-2328M processor (2 cores, 2.20GHz, 3MB cache)**, Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), HT technology **Intel Core i3-3110M processor (2 cores, 2.40GHz, 3MB cache)**, Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), HT technology **Intel Core i5-3210M processor (2 cores, 2.50GHz, 3MB cache)**, Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology
Memory	8GB max[7] / **PC3-12800 1600MHz DDR3**, non-parity, two 204-pin SO-DIMM sockets; * System automatically clocks down for processors with 1333MHz memory controller
Diskette drive	None
SATA DVD±RW	DVD burner, dual-layer support, fixed, not removable, 12.7mm high, tray-in
SATA disk	Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable,
Widescreen display	**15.6"** (396mm) **HD (1366x768) TFT color**, anti-glare, **LED backlight,** 200 nits, 16:9 aspect ratio
Camera	HD720p Camera on top of screen, 1.0-megapixel, fixed focus
Integrated graphics	**Intel HD Graphics**, **Intel HD Graphics 3000** or **Intel HD Graphics 4000** in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via HDMI connector
Keyboard	Full-size keyboard, multimedia Fn keys, recovery key
Numeric keypad	Numeric keypad on right of keyboard
Touch controls	None
Touch pad	Touch pad with two button, supports scroll feature, multi-touch
Dimensions[3]	*(WxDxH):* 14.88" x 9.92" x 1.30"; 378mm x 252mm x 33.1mm
Weight[2]	with optical drive and battery: *6-cell:* from 5.18 lb (2.35kg)
Case color	Black top, black bottom
Case material	Polycarbonate/Acrylonitrile-Butadiene-Styrene (PC/ABS) plastic
Battery - type	Lithium Ion **6-cell**
Battery - life[10]	*6-cell:* up to 6 hr
Chipset	**Mobile Intel HM77 Express Chipset**
ExpressCard/34	None
Multicard reader	4-in-1 reader (MMC, SD, SDHC, SDXC)
Ports	Two USB 3.0, two USB 2.0, ethernet (RJ-45), external monitor (VGA DB-15, HDMI)
TV tuner	None
PCIe Mini Card	Two PCI Express Mini Card slots
11b/g/n[28]	11b/g/n, PCIe Half Mini Card, Wi-Fi + Bluetooth combo adapter, 1x1
WWAN	None
Bluetooth™	Bluetooth 4.0 wireless, integrated in WLAN PCIe Half Mini Card
Modem	None
Ethernet	Gigabit ethernet, Realtek® RTL8111F
Audio support	High Definition (HD) Audio, Realtek® 269Q codec / stereo speakers (2.0 watt x 2) / microphone, microphone input and headphone combo jack
Security	Power-on password, hard disk password, supervisor password, security lockhole
Fingerprint reader	AuthenTec fingerprint reader on palm rest, swipe sensor
Limited warranty[12]	**1-year** - depot repair service

Preloaded operating system[20]
- *Some:* Windows 8 64-bit
- *Some:* Windows 8 Pro 64-bit

Preloaded applications[14] (only some listed)
- Lenovo Support
- Lenovo Companion
- Lenovo Cloud Storage
- Password Manager
- Fingerprint Software (fingerprint models)
- ThinkVantage System Update
- Norton™ Internet Security (30 days of virus definitions)
- Microsoft Office 2010 preloaded; purchase product key to activate

65-watt AC adapter
EPEAT™ Sliver rating
ENERGY STAR® compliant
RoHS-compliant

See footnotes for important warranty information
WE model(s) announced November 28, 2012

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Lenovo® B580 (4377) - Optimus (Windows 8)

Type-model	Pro-cessor	GHz	Max turbo (GHz)	Memory	Widescreen display	Cam-era	Graphics	SATA disk	SATA optical	PCIe Mini Card WLAN / BT	Top color	HDMI con-nector	Preload	Avail date
4377-A6G	i5-3210M	2.50	3.10	4GBx1	15.6" HD	720p	GF 610M 1GB	1TB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 64	Nov 12

- ***15.6" widescreen, anti-glare display***
- ***Integrated 720p HD camera***
- ***Microsoft® Office 2010 Product Key Ready (O10PKR)***

Positioning	*Widescreen flexibility; two-spindle*
Processor	**Intel® Core™ i5-3210M processor (2 cores, 2.50GHz, 3MB cache)**, Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology
Memory	8GB max[7] / **PC3-12800 1600MHz DDR3**, non-parity, two 204-pin SO-DIMM sockets;
Diskette drive	None
SATA DVD±RW	DVD burner, dual-layer support, fixed, not removable, 12.7mm high, tray-in
SATA disk	Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable,
Widescreen display	**15.6"** (396mm) **HD (1366x768) TFT color**, anti-glare, **LED backlight,** 200 nits, 16:9 aspect ratio
Camera	HD720p Camera on top of screen, 1.0-megapixel, fixed focus
Integrated graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, **Intel HD Graphics 4000** in processor, and **NVIDIA GeForce® 610M**, PCI Express® x16, **1GB** memory, DirectX® 11, NVIDIA PureVideo® HD technology, External monitor support via analog VGA DB-15 connector / digital HDMI connector
Keyboard	Full-size keyboard, multimedia Fn keys, recovery key
Numeric keypad	Numeric keypad on right of keyboard
Touch controls	None
Touch pad	Touch pad with two button, supports scroll feature, multi-touch
Dimensions[3]	*(WxDxH):* 14.88" x 9.92" x 1.30"; 378mm x 252mm x 33.1mm
Weight[2]	with optical drive and battery: *6-cell:* from 5.18 lb (2.35kg)
Case color	Black top, black bottom
Case material	Polycarbonate/Acrylonitrile-Butadiene-Styrene (PC/ABS) plastic
Battery - type	Lithium Ion **6-cell**
Battery - life[10]	*6-cell:* up to 6 hr
Chipset	**Mobile Intel HM77 Express Chipset**
ExpressCard/34	None
Multicard reader	4-in-1 reader (MMC, SD, SDHC, SDXC)
Ports	Two USB 3.0, two USB 2.0, ethernet (RJ-45), external monitor (VGA DB-15, HDMI)
TV tuner	None
PCIe Mini Card	Two PCI Express Mini Card slots
11b/g/n[28]	11b/g/n, PCIe Half Mini Card, Wi-Fi + Bluetooth combo adapter, 1x1
WWAN	None
Bluetooth™	Bluetooth 4.0 wireless, integrated in WLAN PCIe Half Mini Card
Modem	None
Ethernet	Gigabit ethernet, Realtek® RTL8111F
Audio support	High Definition (HD) Audio, Realtek® 269Q codec / stereo speakers (2.0 watt x 2) / microphone, microphone input and headphone combo jack
Security	Power-on password, hard disk password, supervisor password, security lockhole
Fingerprint reader	AuthenTec fingerprint reader on palm rest, swipe sensor
Limited warranty[12]	**1-year** - depot repair service

Preloaded operating system[20]
- Windows 8 64-bit

Preloaded applications[14] (only some listed)
- Lenovo Support
- Lenovo Companion
- Lenovo Cloud Storage
- Password Manager
- Fingerprint Software (fingerprint models)
- ThinkVantage System Update
- Norton™ Internet Security (30 days of virus definitions)
- Microsoft Office 2010 preloaded; purchase product key to activate

90-watt AC adapter
EPEAT™ Sliver rating
ENERGY STAR® compliant
RoHS-compliant

See footnotes for important warranty information
WE model(s) announced November 28, 2012

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Lenovo B590

Lenovo B590

Lenovo B590
(With HM77 chipset)

Lenovo B590
(With HM70 chipset)

Lenovo B590

Lenovo B590

Type-model	Pro-cessor	GHz	Memory	Widescreen display	Cam-era	Integrated graphics	SATA disk	SATA optical	PCIe Mini Card WLAN / BT	Top color	HDMI con-nector	Preload	Avail date
3761-23G	B980	2.40	4GBx1	15.6" HD	720p	Intel HD	500GB 5400[8]	DVD±RW	11b/g/n + BT[28]	Black	HDMI	Win8 64	Nov 12
3761-2CG	B830	1.80	2GBx1	15.6" HD	720p	Intel HD	320GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 64	Nov 12
3761-2DG	B980	2.40	4GBx1	15.6" HD	720p	Intel HD	320GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 64	Nov 12
3761-2EG	B980	2.40	2GBx1	15.6" HD	0.3M	Intel HD	320GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	DOS-Lic.	Nov 12
3761-2KG	B830	1.80	4GBx1	15.6" HD	720p	Intel HD	320GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 Pro64	Nov 12
3761-2LG	B960	2.20	2GBx1	15.6" HD	720p	Intel HD	320GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	DOS-Lic.	Nov 12
3761-2MG	B960	2.20	4GBx1	15.6" HD	720p	Intel HD	500GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 64	Nov 12
3761-2NG	B830	1.80	4GBx1	15.6" HD	720p	Intel HD	320GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win7 Pro64	Nov 12

- ***15.6" widescreen, anti-glare display***
- ***Integrated camera***
- ***Microsoft® Office 2010 Product Key Ready (O10PKR) on selected Models***

Positioning	*Widescreen flexibility; two-spindle*
Processor	**Intel® Celeron® B830 processor (2 cores, 1.80GHz, 2MB cache)**, Intel HD Graphics, DDR3 memory controller (up to 1333MHz) **Intel Pentium® B960 processor (2 cores, 2.20GHz, 2MB cache)**, Intel HD Graphics, DDR3 memory controller (up to 1333MHz) **Intel Pentium B980 processor (2 cores, 2.40GHz, 2MB cache)**, Intel HD Graphics, DDR3 memory controller (up to 1333MHz)
Memory	8GB max[7] / **PC3-12800 1600MHz DDR3**, non-parity, two 204-pin SO-DIMM sockets; * System automatically clocks down for processors with 1333MHz memory controller
Diskette drive	None
SATA DVD±RW	DVD burner, dual-layer support, fixed, not removable, 12.7mm high, tray-in
SATA disk	Hard Disk Drive / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable,
Widescreen display	**15.6"** (396mm) **HD (1366x768) TFT color**, anti-glare, **LED backlight,** 200 nits, 16:9 aspect ratio
Camera	0.3-megapixel or HD720p Camera on top of screen, fixed focus
Integrated graphics	**Intel HD Graphics** in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via HDMI connector
Keyboard	Full-size keyboard, multimedia Fn keys, recovery key
Numeric keypad	Numeric keypad on right of keyboard
Touch controls	None
Touch pad	Touch pad with two button, supports scroll feature, multi-touch
Dimensions[3]	*(WxDxH):* 14.88" x 9.92" x 1.32"; 378mm x 252mm x 33.4mm
Weight[2]	with optical drive and battery: *6-cell:* from 5.51 lb (2.5kg)
Case color	Black top, black bottom
Case material	Polycarbonate/Acrylonitrile-Butadiene-Styrene (PC/ABS) plastic
Battery - type	Lithium Ion **6-cell**
Battery - life[10]	*6-cell:* up to 6 hr
Chipset	**Mobile Intel HM70 Express Chipset**
ExpressCard/34	None
Multicard reader	4-in-1 reader (MMC, SD, SDHC, SDXC)
Ports	One USB 3.0, two USB 2.0, ethernet (RJ-45), external monitor (VGA DB-15, HDMI)
TV tuner	None
PCIe Mini Card 11b/g/n[28]	One PCI Express Mini Card slot 11b/g/n, PCIe Half Mini Card, Wi-Fi + Bluetooth combo adapter, 1x1
Bluetooth™	Bluetooth 4.0 wireless, integrated in WLAN PCIe Half Mini Card
Modem	None
Ethernet	Gigabit ethernet, Realtek® RTL8111F
Audio support	High Definition (HD) Audio, Realtek® 269Q codec / stereo speakers (2.0 watt x 2) / microphone, microphone input and headphone combo jack
Security	Power-on password, hard disk password, supervisor password, security lockhole
Fingerprint reader	None
Limited warranty[12]	**1-year** - depot repair service

Preloaded operating system[20]
- *Some:* DOS-Lic.
- *Some:* Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit
- *Some:* Windows 8 64-bit
- *Some:* Windows 8 Pro 64-bit

Preloaded applications (only some listed)

- Windows 7 models
- ThinkVantage Tools
- Lenovo SimpleTap
- Adobe® Reader®
- CyberLink YouCam

- Windows 8 models
- Lenovo Support
- Lenovo Companion
- Lenovo Settings

- All models (exclude DOS models)
- ThinkVantage System Update
- Norton™ Internet Security (30 days of virus definitions)
- Microsoft Office 2010 preloaded; purchase product key to activate
- Lenovo Cloud Storage

65-watt AC adapter
EPEAT™ Sliver rating (exclude DOS models)
ENERGY STAR® compliant (exclude DOS models)
RoHS-compliant

See footnotes for important warranty information
WE model(s) announced November 28, 2012

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Type-model	Pro-cessor	GHz	Max turbo (GHz)	Memory	Widescreen display	Cam-era	Integrated graphics	SATA disk	SATA optical	PCIe Mini Card WLAN / BT	Top color	HDMI con-nector	Preload	Avail date
6274-22G	i3-2328M	2.20	No	4GBx1	15.6" HD	0.3M	Intel HD 3000	320GB 5400[8]	DVD±RW	11b/g/n + BT[28]	Black	HDMI	DOS-Lic.	Nov 12
6274-24G	i3-2328M	2.20	No	4GBx1	15.6" HD	720p	Intel HD 3000	320GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 64	Nov 12
6274-25G	i3-2328M	2.20	No	4GBx1	15.6" HD	720p	Intel HD 3000	320GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 Pro64	Nov 12
6274-26G	i3-2328M	2.20	No	4GBx1	15.6" HD	720p	Intel HD 3000	500GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 64	Nov 12
6274-27G	i3-2328M	2.20	No	4GBx1	15.6" HD	720p	Intel HD 3000	500GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 Pro64	Nov 12
6274-28G	i3-3110M	2.40	No	2GBx1	15.6" HD	720p	Intel HD 4000	320GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 Pro64	Nov 12
6274-29G	i3-3110M	2.40	No	4GBx1	15.6" HD	720p	Intel HD 4000	500GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 64	Nov 12
6274-2AG	i3-3110M	2.40	No	4GBx1	15.6" HD	720p	Intel HD 4000	500GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 Pro64	Nov 12
6274-2BG	i5-3210M	2.50	3.10	4GBx1	15.6" HD	720p	Intel HD 4000	500GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win8 64	Nov 12
6274-2FG	i3-2328M	2.20	No	4GBx1	15.6" HD	720p	Intel HD 3000	320GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win7 Pro64	Nov 12
6274-2GG	i3-2328M	2.20	No	4GBx1	15.6" HD	720p	Intel HD 3000	500GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win7 Pro64	Nov 12
6274-2HG	i3-3110M	2.40	No	2GBx1	15.6" HD	720p	Intel HD 4000	320GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win7 Pro64	Nov 12
6274-2JG	i3-3110M	2.40	No	4GBx1	15.6" HD	720p	Intel HD 4000	500GB 5400	DVD±RW	11b/g/n + BT	Black	HDMI	Win7 Pro64	Nov 12

- ***15.6" widescreen, anti-glare display***
- ***Integrated camera***
- ***Microsoft® Office 2010 Product Key Ready (O10PKR) on selected Models***

Positioning	*Widescreen flexibility; two-spindle*
Processor	**Intel® Core™ i3-2328M processor (2 cores, 2.20GHz, 3MB cache)**, Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), HT technology **Intel Core i3-3110M processor (2 cores, 2.40GHz, 3MB cache)**, Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), HT technology **Intel Core i5-3210M processor (2 cores, 2.50GHz, 3MB cache)**, Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology
Memory	8GB max[7] / **PC3-12800 1600MHz DDR3**, non-parity, two 204-pin SO-DIMM sockets; * System automatically clocks down for processors with 1333MHz memory controller
Diskette drive	None
SATA DVD±RW	DVD burner, dual-layer support, fixed, not removable, 12.7mm high, tray-in
SATA disk	Hard Disk Drive / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable,
mSATA™ SSD	None
Widescreen display	**15.6"** (396mm) **HD (1366x768) TFT color**, anti-glare, **LED backlight,** 200 nits, 16:9 aspect ratio
Camera	0.3-megapixel or HD720p Camera on top of screen, fixed focus
Integrated graphics	**Intel HD Graphics 3000** or **Intel HD Graphics 4000** in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via HDMI connector
Keyboard	Full-size keyboard, multimedia Fn keys, recovery key
Numeric keypad	Numeric keypad on right of keyboard
Touch controls	None
Touch pad	Touch pad with two button, supports scroll feature, multi-touch
Dimensions[3]	*(WxDxH):* 14.88" x 9.92" x 1.32"; 378mm x 252mm x 33.4mm
Weight[2]	with optical drive and battery: *6-cell:* from 5.51 lb (2.5kg)
Case color	Black top, black bottom
Case material	Polycarbonate/Acrylonitrile-Butadiene-Styrene (PC/ABS) plastic
Battery - type	Lithium Ion **6-cell**
Battery - life[10]	*6-cell:* up to 6 hr
Chipset	**Mobile Intel HM77 Express Chipset**
ExpressCard/34	None
Multicard reader	4-in-1 reader (MMC, SD, SDHC, SDXC)
Ports	Two USB 3.0, two USB 2.0, ethernet (RJ-45), external monitor (VGA DB-15, HDMI)
TV tuner	None
PCIe Mini Card	Two PCI Express Mini Card slots
11b/g/n[28]	11b/g/n, PCIe Half Mini Card, Wi-Fi + Bluetooth combo adapter, 1x1
WWAN	None
Bluetooth™	Bluetooth 4.0 wireless, integrated in WLAN PCIe Half Mini Card
Modem	None
Ethernet	Gigabit ethernet, Realtek® RTL8111F
Audio support	High Definition (HD) Audio, Realtek® 269Q codec / stereo speakers (2.0 watt x 2) / microphone, microphone input and headphone combo jack
Security	Power-on password, hard disk password, supervisor password, security lockhole
Fingerprint reader	None
Limited warranty[12]	**1-year** - depot repair service

Preloaded operating system[20]
- *Some:* DOS-Lic.
- *Some:* Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit
- *Some:* Windows 8 64-bit
- *Some:* Windows 8 Pro 64-bit

Preloaded applications (only some listed)

- Windows 7 models
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- All models (exclude DOS models)
- ThinkVantage System Update
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- Lenovo Cloud Storage

65-watt AC adapter
EPEAT™ Sliver rating (exclude DOS models)
ENERGY STAR® compliant (exclude DOS models)
RoHS-compliant

See footnotes for important warranty information
WE model(s) announced November 28, 2012

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Availability: All offers subject to availability. Lenovo reserves the right to alter product offerings and specifications at any time, without notice. Lenovo is not responsible for photographic or typographic errors.

Warranty: For a copy of applicable product warranties, write to: Warranty Information, P.O. Box 12195, RTP, NC, 27709, Attn: Dept ZPYA/B676. Lenovo makes no representation or warranty regarding third party products or services.

Footnotes:

[1] Power management, including Intel® SpeedStep® Technology, reduces processor speed when in battery mode.

[2] **Weight** includes battery and standard optical drive; weight may vary due to vendor components, manufacturing process and options.

[3] **Thinness** may vary at certain points on the system.

[4] **Wireless capability:** Requires compatible wireless-enabled options sold separately.

[5] **Post-warranty annual maintenance agreement:** Service begins at the end of the base warranty or the end of any other applied warranty and maintenance option, whichever occurs last. Service delivery is not available the same day the maintenance agreement is purchased. Maintenance agreements must be purchased and the registration successfully completed prior to the service being available.

[6] **Public network download modem speeds** are limited to 53Kbps. Upload speeds are limited to 48Kbps for V.92 modems. Actual speeds depend on many factors and are often less than the maximum possible. V.92 functions and speeds require compatible phone line and server equipment. Check with your telephone and ISP service providers for availability.

[7] **Maximum memory capacity** may require the replacement of standard component with largest supported component available. Even though it is possible to physically install 4GB of memory, the actual amount of memory addressable by a 32-bit operating system will be limited to 3GB. This limitation does not exist with 64-bit operating systems.

[8] **Hard drive:** GB = billion bytes, TB = trillion bytes. Accessible capacity is less; up to 4GB is service partition.

[9] **Service upgrade options:** Upgrades do not apply to components covered for 90 days. Those remain at 90-day warranty

[10] **Battery:** These model numbers achieved Battery Rundown Time of at least the time shown during testing. A description of the testing available at **lenovo.com**/pc/ww/thinkpad/batterylife. Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.

[11] **Wireless:** Based on IEEE 802.11a, 802.11b, and 802.11g respectively. An adapter with 11a/b, 11b/g, or 11a/b/g can communicate on either/any of these listed formats respectively, the actual connection will be based on the access point to which it connects.

[12] **Limited warranty:** Support unrelated to a warranty issue may be subject to additional charges.

[13] **Onsite Service:** If a machine is listed as having "On-site", this means that on-site service is available for the replacement of parts for warranty repairs. Certain parts, referred to as Customer Replaceable Unit ("CRU") parts, are easy to install and require little or no tools or technical knowledge. Some examples of CRU parts are mice, keyboards, hard disk drives, speakers, and memory. If your problem can be resolved with a CRU, the Support Center will offer to ship the part to you for you to install.

[14] **Included software** may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.

[15] **Modem speeds:** Public network download speeds are limited to 53Kbps. Upload speeds are limited to 48Kbps for V.92 modems. Actual speeds depend on many factors and are often less than the maximum possible. V.92 functions and speeds require compatible phone line and server equipment. Check with your telephone and ISP service providers for availability.

[18] **Telephone support** may be subject to additional charges, even during the limited warranty period. Response times may vary and may exclude some holidays.

[19] **EasyServ depot repair:** The customer may be asked certain diagnostic questions before a courier is sent. Your purchase includes this depot repair service, available in the U.S. during the limited warranty period.

[20] **Operating System:** Level of support varies by operating system. Operating systems not preloaded on the system may not provide full feature functionality. Refer to lenovo.com/pc/support and enter your machine type and model number for more information.

[21] **For combination drives**, maximum possible speeds only are given in the following order: CD write, CD rewrite, CD read, DVD read.

[22] **Lenovo Services:** These services are available for machines normally used for business, professional, or trade purposes, rather than personal, family, or household purposes. Not all machine types and models are covered. Service period begins with the equipment date of purchase. Service must be purchased during the original limited product warranty period. Service levels are response time objectives and are not guarantees. If the machine problem turns out to be a Customer Replaceable Unit (CRU), a part can be express shipped to you for quick replacement. For notebooks requiring LCD or other component replacement, Lenovo may choose to perform service at the depot repair center. Calls must be received by 5 pm local time in order to qualify for Next Business Day service. P&L means parts and labor. P/U means pick-up. See terms and conditions for complete details and restrictions.

[25] **Wireless WAN Cards:** Wireless data service requires separate agreement with Verizon Wireless. Verizon Wireless, not Lenovo, is solely responsible for service. Monthly and airtime charges may apply. Service may not be available in all areas; purchaser is responsible for verifying with Verizon Wireless that service is available for the intended location before the purchase of the card. For complete details, including service plans, additional required hardware or software, and service coverage, visit www.verizonwireless.com.

[28] **The IEEE 802.11n specification (MIMO)** has been finalized and is currently in IEEE 802.11n-2009 release. The maximum speed depends on the access point device and the number of integrated antenna used for connection. An adapter with 11a/b, 11a/b/g, 11b/g/n, or 11a/b/g/n can communicate on any of its supported formats.

[58] **Service upgrade options for Split Warranty:** (1) Mail In upgrades cover all components except power adapter, keyboard, plastics, and hinges after 90 days through end of first year. The "Mail-In" upgrades require customer to pay the leg of shipping into the depot repair center. (2) Onsite upgrades cover all components except power adapter, keyboard, plastics, and hinges after 90 days through end of term selected. (3) Accidental Damage Protection covers all components through the end of the term selected.

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Visit **www.lenovo.com/psref** for the latest version of Personal Systems Reference.

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